Chapter 4: Natural and Cultural Resources and Conservation

This chapter provides direction regarding the preservation and protection of natural resources, cultural resources, and energy conservation. Shandon's setting, adjacent to Cholame Creek, San Juan Creek and the Estrella River includes natural resources that are important not only for aesthetic value, but also for environmental quality, habitat protection, recreation, and agriculture. Adjacency to water courses is also significant for pre-historic and historic cultural activities. The preservation and protection of these resources and Shandon's historical character is an important goal of the Community Plan.

4.1 Natural Resources

Dominant natural communities within Shandon include willow-cotton wood riparian forest, featuring a rather dense, extensive stand along the Estrella River, and sparser stands of riparian trees along Cholame Creek and San Juan Creek. Fields of non-native annual grassland also are located throughout the landscape, interspersed with patches of coyote brush scrub, and less commonly, saltbush scrub. Agricultural fields and vineyards also contribute to the natural setting. Ruderal (disturbed) areas with primarily weedy vegetation are common along road edges, adjacent to fields and pastures, and between residential developments.

4.1.1 Biological Resources

The Study Area is characterized by five plant communities and wildlife habitats: willow-cottonwood riparian forest, non-native annual grassland, agricultural fields, vineyards and ruderal (disturbed).

Willow-Cottonwood Riparian Forest
These communities feature tall, open, broad-leafed, winter-deciduous riparian forests dominated by Fremont cottonwood and arroyo willow. These areas support cover for wildlife and good foraging habitat. Riparian zones help provide corridors for migratory birds and mammals and its habitat value increases when water is present. *(Shandon Study Area Environmental Constraints Analysis – Morro Group, Inc.).*

Non-Native Annual Grassland
Non-native annual grassland is found throughout California, primarily below 3,000 feet elevation on fine-textured, usually clay soils. This vegetation type is dominated by introduced annual grasses in association with many species of showy native forbs, especially in years of abundant rainfall. These grasses and flowers germinate with the onset of late fall and winter rains. Growth, flowering, and seed-set take place from winter through spring. Most annuals in this community die by summer and persist as seeds until the return of winter rains.

In the Study Area, non-native annual grassland is concentrated in undeveloped fields adjacent to the Estrella River riparian corridor. These grasslands are dominated by Mediterranean species such as soft chess brome, Italian ryegrass, and wild oats, as well as various weedy associate species. Patches of coyote brush scrub and saltbush scrub are also located sporadically in some of these grasslands. *(Shandon Study Area Environmental Constraints Analysis – Morro Group, Inc.).*

Agricultural Fields
Agricultural production within and in the vicinity of the community includes pastures, dry croplands, mixed croplands, specialty crops, and row crops. Production includes grain, table grapes, carrots and other row crops, and cattle. Several agricultural fields, including pastures, hayfields, and fallow fields, are located within the community. As with vineyards, agricultural areas can fragment wildlife habitats and corridors. Although the effects of this landscape alteration are typically not as intense as conversion to viticulture. The vegetation in agricultural fields often provide habitat for small burrowing mammals such as California ground squirrel, white-footed mice, pocket mice, voles, and Botta's pocket gophers. The presence of this small mammal prey base can provide foraging opportunities for various raptors, and foraging and migration opportunities for carnivores such as San Joaquin kit fox. *(Shandon Study Area Environmental Constraints Analysis – Morro Group, Inc.).*

Vineyards
Several vineyards are located within the Study Area. Vineyards often completely replace native vegetation and can fragment wildlife corridors. Despite widespread conversion of large areas of the northern San Luis Obispo County landscape from natural habitats to viticulture in recent years, certain special-status species continue to use vineyards as foraging and dispersal habitat, including the San Joaquin kit fox. Birds also use vineyards as foraging areas. *(Shandon Study Area Environmental Constraints Analysis – Morro Group, Inc.).*

Special Status Plant Communities The CNDDB (2005) has occurrence records for several special-status plant and wildlife species within the community, which are located within the Shandon, Cholame, Shedd Canyon, and Camatta Canyon USGS 7.5-minute quadrangles. The following list contains the names of all special-status species known to occur within the Study Area.

- San Luis Obispo mariposa lily
- Dwarf calycadenia
- Lemmon's jewelflower
- Hall's tarplant
- Temblor buckwheat
- Round-leaved filaree

Special Status Animal Species The following list contains the names of all special-status species known or with potential to occur within the Study area.

- Longhorn fairy shrimp
- Vernal pool fairy shrimp
- Western spadefoot
- Southwestern pond turtle
- Blunt-nosed leopard lizard
- Coast (California) horned lizard
- Silvery legless lizard
- Two-striped garter snake
- San Joaquin whipsnake
- White-tailed kite
- Golden eagle
- Prairie falcon
- Western burrowing owl
- Loggerheard shrike
- California horned lark
- Giant kangaroo rat
- San Joaquin pocket mouse
- Tulare grasshopper mouse
- American badger
- California condor
- Peregrine falcon
- San Joaquin kit fox

4.1.2 Sensitive Resource Areas

The stream corridors, a portion of their adjacent grasslands, and an area along the easterly edge of the URL are designated as Sensitive Resource Areas on the Combining Designations Map in order to protect habitat and migration corridors for wildlife (primarily for the San Joaquin kit fox and Western burrowing owl). These areas are described in Sections 3.1.5 and 3.6.3 in this Plan.

A Habitat Conservation Plan (HCP) will be completed for the San Joaquin kit fox, Western burrowing owl, and Vernal pool fairy shrimp. The mitigation strategies developed in the HCP will likely result in development standards for the community as well as permanent open space or conservation easements through the community.

4.1.3 Water Resources

Water is a valuable and scarce resource; it is essential for Shandon's and the surrounding area's environmental, social, and economic well-being. In 2012, Shandon's entire water needs were met by pumping groundwater in the immediate vicinity of Shandon.

Within the greater Paso Robles groundwater basin, concentrated pumping has created localized pumping depressions and declining water levels. Therefore, maintaining a sustainable water supply is a critical need for the region. To that end, the County Board of Supervisors, on February 1, 2011, approved a Resource Capacity Study and certified a Level of Severity (LOS) III for the greater Paso Robles groundwater basin (refer to Figure 4.1).

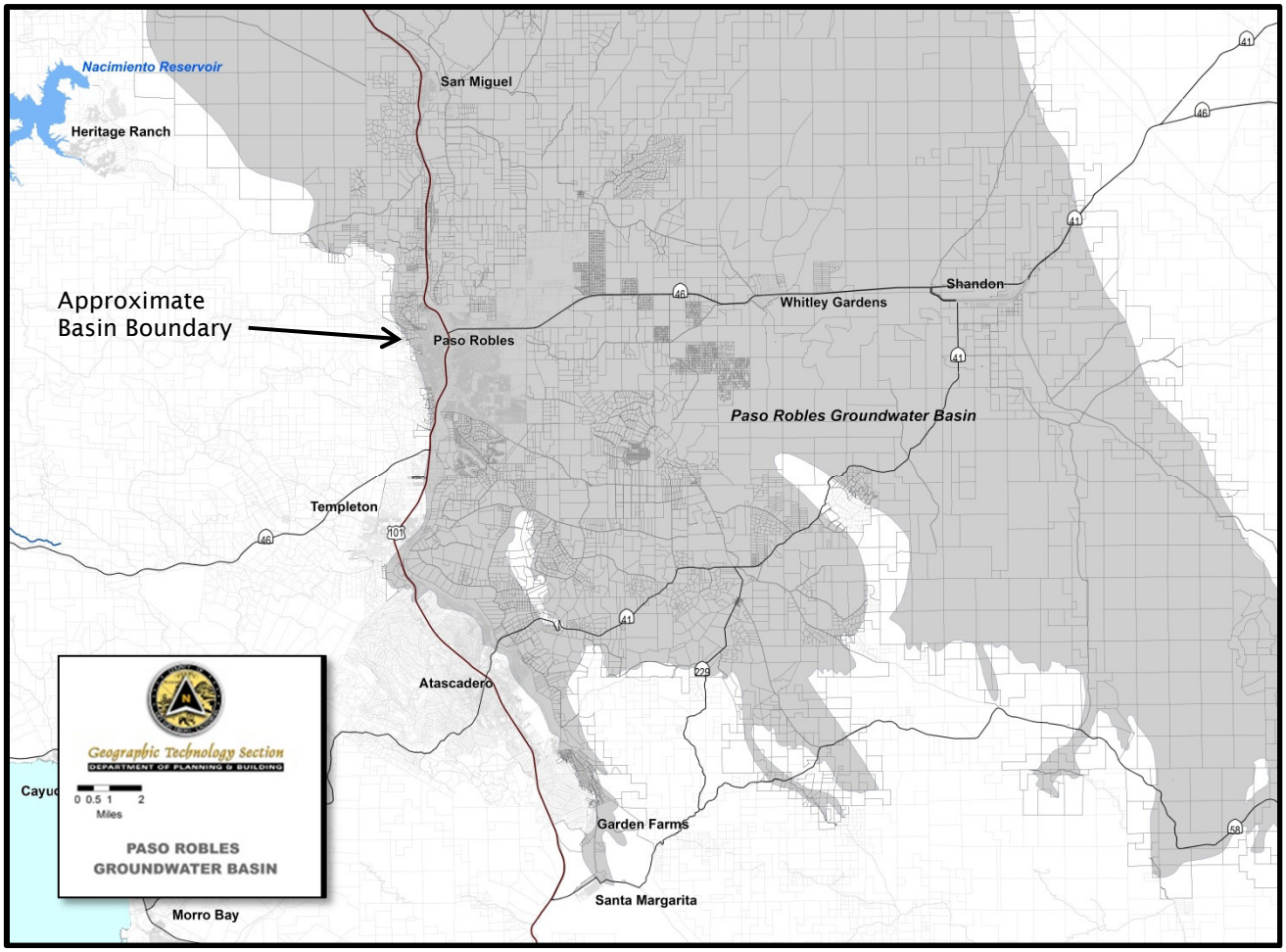
> *LOS III - A Level of Severity III exists when water demand equals the available resource; the amount of consumption has reached the dependable supply of the resource.*

As a result of the LOS III certification, in general, new discretionary development will need to offset its water use with non-agricultural water. Groundwater use can be offset in three basic ways: conserving and making efficient use of water, using supplemental water and /or retiring non-agricultural development. Section 22.110 of the Land Use Ordinance contains standards for new development's water supply for achieving water offsets.

A key supplemental water source is the State Water Project. The State Water pipeline passes through the east side of Shandon. County Service Area 16 holds an allocation for 100 acre-feet per year (AFY) of the State Water Project supply. In order to deliver State water to Shandon, improvements to the State Water delivery system will be required. Section 8.4 lists those improvements as a required infrastructure improvement. However, the 100 AFY State water allocation is enough to supply only about 5/8^{ths} of Shandon's 2012 population. Although the 100 AFY allocation cannot be used for new development, the State Water project has additional capacity that could be used for new development.

Conserving water is an important tool to sustain Shandon's and the region's water supply. This is particularly true in Shandon, due to its drier climate with warm summers. Conserving water resources and using efficient water systems can save up to 20 percent of per capita water use. In addition, a key component of the wastewater treatment facility is its emphasis on groundwater replenishment. The wastewater treatment system is expected to return close to 50 percent of the community's water demand to the groundwater basin.

Figure 4.1
Paso Robles Groundwater Basin



4.2 Natural Resources Policies

NRP-1 Provide adequate buffers between urban development and the following: sensitive biological habitat, agricultural land and stream banks.

NRP-2 Maintain the river and creeks in a natural state.

NRP-3 Prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and National Pollutant Discharge Elimination System (NPDES). Development project shall use Low Impact Development strategies to the greatest extent practicable.

NRP-4 Future land uses along the southern edge of the community should be low intensity to discourage urban growth beyond the Study Area.

NRP-5 Development shall be consistent with the Shandon Community Plan Habitat Conservation Plan (HCP).

NRP-6 Preserve oak trees and other native or historically significant trees. Site design should incorporate these trees to the maximum extent feasible with a priority first to avoiding impacts to the trees.

NRP-7 Encourage the use of native, drought tolerant plants in landscaping for new development, including private and public projects.

NRP-8 Maintain a sustainable water supply by encouraging water conservation, maximizing groundwater replenishment, using recycled water, seeking additional supplemental water, and offsetting new non-agricultural water demand.

4.3 Natural Resources Implementation Programs

NRIP-1 Open space lands may be publicly or privately owned. Mechanisms to ensure the long-term preservation of open space should be established, when appropriate, for the protection of important habitat, cultural, recreational, or scenic resources.

NRIP-2 Develop a Habitat Conservation Plan for the San Joaquin kit fox and other critical species. Obtain a Federal "Incidental Take" permit for the community.

NRIP-3 The County should work with the community to maintain viable agricultural land on the periphery of the URL, encourage the continuation of farming activities outside of the URL, and facilitate the continuance of agricultural activities within the community's URL until the land is needed to accommodate population and employment growth.

NRIP-4 The County or a special district to be formed should pursue and secure delivery of additional State Water in excess of the 2012 allocation of 100 acre-feet per year, including any required drought buffer.

NRIP-5 Conduct water conservation workshops for the community that includes information on plumbing fixtures and maintenance, sound landscape and irrigation techniques, greywater systems, and low-impact development.

NRIP-6 New development should fund a toilet retrofit program to replace existing high-flow toilets with low-flow toilets in existing residential and commercial structures. The County should oversee implementation of the toilet retrofit program, which should be in place prior to issuance of construction permits for new development resulting from new land divisions and land use permits subject to discretionary review.

NRIP-7 To encourage water conservation, CSA-16 should explore restructuring its water rates so that water rates increase with water use.

4.4 Cultural Resources

Highway 41/46 corridor has historically served as a traveling route between the coastal areas and the Central Valley. These same routes were previously used by aboriginals for the movement of people and goods as well. The community of Shandon represents one of the few remaining small, agricultural communities that were relatively common in San Luis Obispo County in the late 1800s and early 1900s. Most of these communities have disappeared, leaving behind little physical evidence or written documentation. Consequently, the community of Shandon is in many ways an important historic resource.

4.4.1 Archaeological Resources

The community is within the border territory historically shared by Southern Salinan Indians to the north and East, and Chumash Indians to the south and west. Based on archival records, historical and geomorphological review of the community and phase one archaeological surface of selected key areas of potentially higher archaeological sensitivity, no prehistoric cultural resources were identified in the project study area. About 50% of the more sensitive cultural areas of the community have been surveyed for past projects and no prehistoric cultural resources have been identified; therefore, it is determined that only a low density of cultural sites may be present in Shandon.

There is a low density of archaeological resources occurring within the community, including small archaeological sites located within ¼ mile of water sources *(Shandon Study Area Environmental Constraints Analysis – Morro Group, Inc.).*

A review of ethnohistoric, environmental, and existing archaeological surveys suggest that prehistorically, the area may have been occupied by mobile small groups who focused habitation around available water sources on a seasonal basis. A low density of small seasonal archaeological sites could be located adjacent to water sources. The known surface water sources are located outside the URL. It is also possible that buried prehistoric sites of greater antiquity may occur in the community. These could be located along the Estrella River and San Juan Creek from a time when these water channels contained more water than today. It is possible that cultural sites may have been covered with wind-blown sands in the past. While these sites cannot be identified by surface surveys they could be unearthed during excavations.

4.4.2 Historical Resources

The few historic resources officially recorded in Shandon were discovered as a result of surveys conducted for compliance with the requirements of the CEQA and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and it's implementing regulations (36CFR, Part 800).

During a 1999 Caltrans cultural resources survey for the widening of Highway 46, discontiguous segments of previous alignments of the highway were recorded. Three historic archaeological sites associated with the domestic remains of homesteads of farming activities were recorded immediately north of Highway 46. The Shandon Cemetery was recorded during this investigation (Glover et.a.1999).

An extensive inventory of rural highways in Caltrans District 5 was completed in 2000. During this project, three historic structures belonging to the Shandon School District were recorded along the length of the 1929 Chevron Oil petroleum pipeline: a residence built in 1926, a 1925 flagpole, and the foundation of a 1921 gas station (Mikkelsen et.al. 2000).

The bridge over San Juan Creek, Caltrans number 49-0098, was built in 1941. It has been evaluated and found to be a Category 5 bridge, not eligible for listing on the National Register of Historic Places (Caltrans 2005).

The entire core of Shandon has been identified as potentially historically significant. Historical deposits (i.e., privies, trash pits, bottles) may be present even where there are no standing structures. On First and Second Streets north and south of Centre Street are numerous buildings well over 50 years in age, although some of these may have been moved to their current location from the pumping station northeast of town. Table 4-1 lists potentially eligible properties within the community.

The small development to the west of downtown appears to be largely composed of recent construction. Two residences are square houses with wrap-around porches and monitor ceilings for cooling, indicating that there is the potential for these residences to be considered historic resources. The location would have been attractive at an early date as it is set upon a low hill *(Shandon Study Area Environmental Constraints Analysis – Morro Group, Inc.).*

Table 4.1: Historical Buildings Within The Project Study Area

Location	Building Description/Use
Southwest Corner of Centre Street and 2nd Street	United Methodist Church, founded May 1891
Southwest Corner of 2nd and Camatti	Lions Club/Community Center
240 Centre Street	House, now used as an office
400 East Centre Street	House with a monitor barn and a small out building
North end of 4th Street	Board and batten shed (may have been moved)
Northeast corner of 3rd and Camatti	White painted Barn/Garage with clap-board sheathing
Northeast corner of 3rd and Centre	Stuccoed commercial building, extensive remodeling but may date to an earlier period
140 3rd Street	According an occupant of the property, this house was moved from Camp Roberts to its current location after World War II. Numerous historic and prehistoric artifacts were found in the immediate vicinity of the house when a new septic system was installed next door.
354 Paraiso Place and 366 Mesa Grande Drive	Square houses with wrap around porches and monitor roofs for cooling
384 Mesa Grande Drive	House and outbuildings

4.5 Cultural Resources Policies

CRP-1 Protect and preserve archaeological resources, paleontological resources, and significant historic resources to the maximum extent feasible, with priority given to avoidance of resources over mitigation for disturbed or destroyed resources.

CRP-2 Protect and preserve significant landscape features including native trees, riparian vegetation, and trees with significant aesthetic or historic significance cultural heritage.

4.6 Cultural Resources Implementing Programs

CRIP-1 The County should complete an inventory of historical resources within Shandon to identify significant properties that may require additional treatment in the event of proposed future building alterations, and to determine whether the core area of the community qualifies as a historical district. The inventory should identify significant buildings, structures, and sites; determine which resources contribute to the significance of any such district, and determine where the boundaries of such district are located. This inventory would narrow the range of buildings and properties that require evaluation as potential historic resources. If appropriate, an "H" Historic Site designation may be added to the official Combining Designation map or an alternative preservation measure per the Conservation Element.

4.7 Energy Conservation

Energy conservation and increasing the use of renewable energy sources can benefit both the environment and the economy. Residential energy costs can be lowered by using energy efficient building materials and appliances, passive solar design and individual photovoltaic systems. Commercial facilities will have lower operating costs by saving energy through more efficient construction and operation. Fuel consumption can be reduced by using alternative transportation or living and working in town. The Community Plan encourages the use of renewable energy, implementing "green building" techniques, taking advantage of the sun, and maintaining Shandon as a walkable community. Land use and transportation are discussed in Chapters 3 and 5, respectively; this section identifies other techniques that can be implemented that will contribute to the reduction in energy consumption.

Photovoltaic (PV) Panels can be used to convert sunlight into electricity. The panels can vary in size, style and capacity. They may be roof-mounted or ground mounted. They can augment the energy supply or, if generated, excess electricity can possibly be sold back to the utility company (referred to as "Net Metering"). Larger systems can be placed on commercial roof tops or built to a scale capable of serving the entire community.

- The use of energy efficient building materials and techniques can reduce a building's overall energy consumption by keeping buildings warmer in the winter and cooler in the summer. Using materials with a high content of recycled material is also beneficial to the environment.

- Building site design that takes in account solar orientation, the use of natural day-lighting, passive water heating systems, reduced pavement, and proper placement of deciduous and evergreen trees.

- Planting additional trees in public places throughout the community.

- Water conservation techniques including low water-using plumbing fixtures, "xeriscapes" (low-water using landscapes), and using recycled water.

4.8 Energy Conservation Policies

The following policies are intended to serve as a foundation for guiding the implementation of a green building and sustainability program for Shandon. The policies that follow are intended to be flexible to allow creativity and variety in application.

ECP-1 Implement energy efficient systems and devices, as well as the conservation of energy throughout Shandon.

ECP-2 Implement water conservation for interior consumption, landscape consumption and water recycling.

ECP-3 Implement "green building" techniques and sustainable design throughout Shandon.

ECP-4 Preference shall be placed on site and building design that takes advantage of solar exposure and energy.

ECP-5 Encourage the use of landscape features that aid in regulating the temperature of buildings, and in and around parking lots that reduce "solar gain" in summer and allow "solar gain" in winter.

ECP-6 Support the use of renewable, locally sourced and environmentally superior building materials and products.

ECP-7 Encourage site design and circulation patterns that enable reducing vehicle trips.

4.9 Energy Conservation Implementing Programs

ECIP-1 Provide energy conservation workshops for the community.

ECIP-2 Establish a community tree planting program to plant and maintain street and other trees throughout Shandon, and seek grants to fund such a program. Work with the County Public Works Department, County Parks, the Shandon Advisory Council, local community groups, and other organizations to establish a program, obtain low-cost trees and expertise, and plant and maintain trees.

Tree species should be selected from the Shandon Community Plan Master Tree List. The design, placement and types of street and other trees should be in accordance with a master tree plan that creates a unifying theme for the community. Special design concepts could be developed for distinct areas, such as:

- Community gateways
- The central business district
- Centre Street
- Neighborhoods
- Parks and other public spaces

ECIP-3 Evaluate the use of solar power to operate the wastewater treatment plant.

ECIP-4 Work with the community to pursue a communitywide solar energy system.